

HIGHLIGHTS

- Best-in-class video quality for MPEG-2, H.264 and HEVC
- Support for live and file-based applications
- Hardware agnostic
- Available as a turnkey, software-only or virtualized solution
- Support for multiple video/audio codecs
- Video resolution up to Ultra HD
- Subtitle management
- MPEG transport stream support
- Adaptive bitrate streaming support:
 - Adobe® Flash®
 - Apple® HTTP Live Streaming
 - Microsoft® Smooth Streaming
 - MPEG-DASH
- EBP & ESAM compliant
- Progressive and interlaced modes
- Multiple output formats per channel
- Advanced video and audio preprocessing
- Integrated content protection
- HTTP/HTTPS centralized operation
- Workflow Builder tool
- Integrated load balancing and failover
- Scalable number of input channels and output profiles
- SOAP/web services for external interfacing



The ViBE® VS7000 convergent video system from Harmonic is a next-generation compression platform for all-IP environments, encompassing mission-critical applications including live broadcast-quality encoding and faster-than-real-time file transcoding.

Tailored for all-new convergent applications such as multiscreen and over-the-top (OTT) service delivery, as well as traditional IPTV and IP/cable delivery, the ViBE VS7000 platform enables video operators to expand the reach of their services with unprecedented versatility. The software-based system, which leverages the Harmonic MediaFlex™ OS video operating system, is available as a turnkey solution with hardware provided, as software only for running on standard COTS servers, or as fully virtualized for data center environments.

Superior Video Quality

End-user quality starts with the video itself. Whether it is delivering HD to the living room or streaming content to mobile devices equipped with high-resolution displays, service providers seek to offer their viewers the best possible video experience. Leveraging more than 15 years of best-in-class video quality and innovation in video compression algorithms, the ViBE VS7000 meets this requirement with stunning pictures for all delivery networks.

Workflow Flexibility

Every video operator's environment is unique, which is why the ViBE VS7000 possesses the flexibility for individual operators to design workflows that meet their exact needs. A simple yet powerful, integrated Workflow Builder tool allows the creation of live, file-based and mixed workflows — for any kind of network — with the click of a mouse.

Multiscreen, Multi-Codec, Multiformat

With new video formats emerging at a brisk pace, delivering content to multiple networks is a real challenge. Supporting the major audio/video codecs and latest adaptive streaming formats, the ViBE VS7000 readily adapts to IPTV and cable delivery, as well as OTT live and video-on-demand (VOD) streaming. HEVC encoding is available for both live and file workflows in CBR, VBR and statistical multiplexing applications. Ultra HD file transcoding via either MPEG-4 AVC (H.264) or HEVC is also available, making tomorrow's applications easily achievable with the ViBE VS7000.



MediaFlex OS: Operational Excellence

The MediaFlex OS network management system that powers the ViBE VS7000 platform provides a comprehensive set of digital content delivery tools for configuration and control, workflow analysis, and the monitoring of video distribution workflows, setting a new standard for operational excellence. The primary benefits of MediaFlex OS include:

- **Simplicity**

The unique MediaFlex graphical user interface allows for the control and monitoring of hundreds of channels simultaneously. With built-in 10-GbE switches on the ViBE VS7000, racking and cabling nightmares vanish.

- **Reliability**

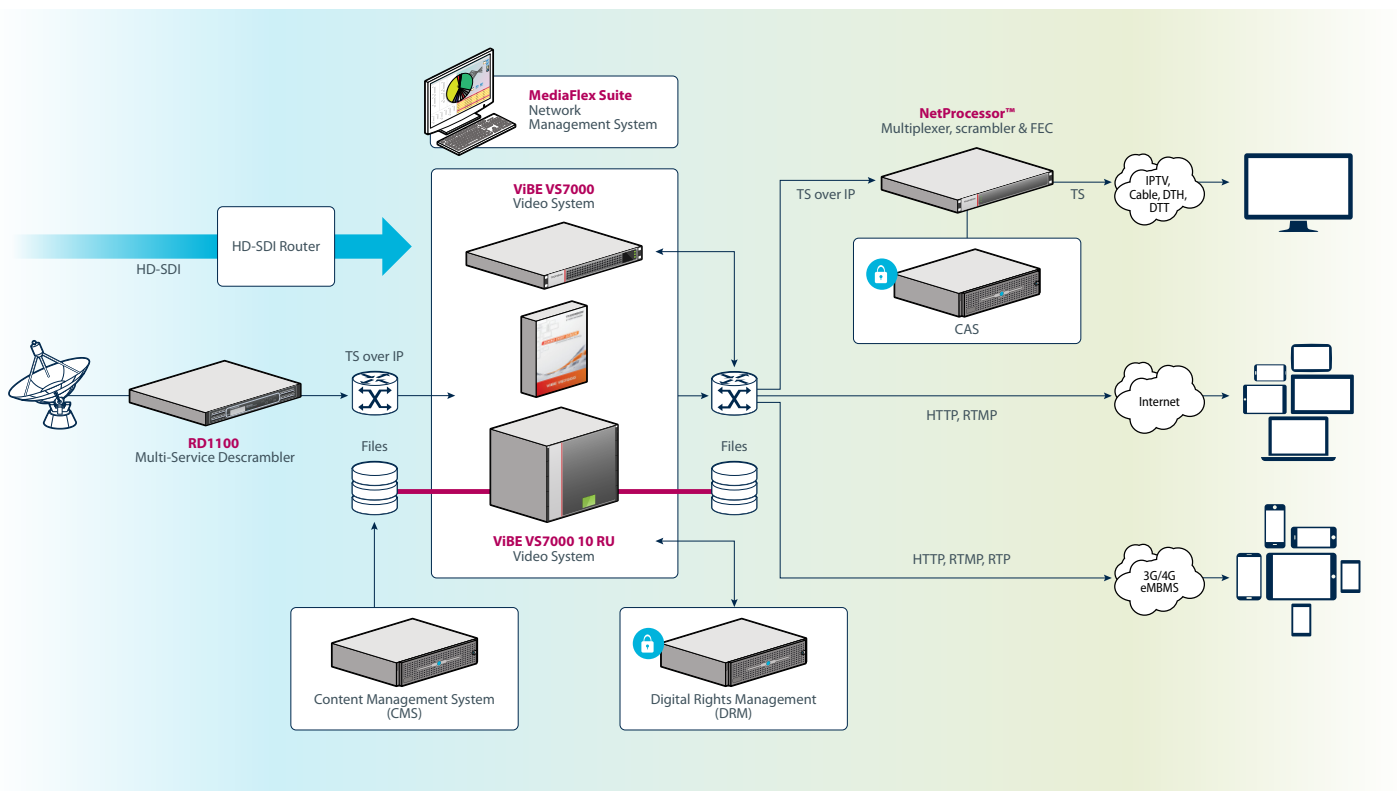
Built around highly resilient IT platforms equipped with hot-swappable, redundant components, the ViBE VS7000 provides native load-balancing and system redundancy to avoid downtime.

- **Scalability**

From a single-server to multi-blade systems, MediaFlex OS enables the ViBE VS7000 to scale and grow with your business.

World-Class Service and Support

Harmonic stands behind the ViBE VS7000 platform with comprehensive service and support programs, including system design, service deployment, technical support and network maintenance. World-class service plans and a global network of flexible and responsive support professionals help ensure your ability to deliver outstanding “anytime, anywhere, any-device” customer experiences.



A unified workflow with the ViBE VS7000



SPECIFICATIONS

VIDEO INPUT/OUTPUT

Live Inputs	MPEG-2 TS MPTS/SPTS over IP (CBR/VBR) Unicast/multicast RTMP IPv4 support IGMP v2/v3
Live Outputs	MPEG-2 TS MPTS/SPTS over IP TS/RTP/UDP streaming EBP compliant Adobe Flash/RTMP Apple HLS Microsoft Smooth Streaming MPEG-DASH Unicast/multicast IPv4 support IGMP v2/v3
Physical Interfaces	10-GbE optical 1-GbE electrical and optical SD/HD-SDI

VIDEO PROCESSING

Encoding Profiles	MPEG-2 Simple/Main H.264 Baseline/Main/High HEVC Main (8/10-bit)
Decoding Profiles	MPEG-2 Simple/Main/High/4:2:2 H.264 Baseline/Main/High/High 4:2:2 Apple ProRes, up to 4444 XQ (offline only)
Resolutions and Frame Rates	
Offline	Up to 3840x2160p @ 60 fps
Live H.264	Up to 1920x1080i @ 60 fps Up to 1920x1080p @ 30 fps Up to 1280x720p @ 60 fps
Live HEVC	Up to 1920x1080i @ 30 fps Up to 1280x720p @ 60 fps
Minimum Resolution	64x64 pixels
Resolution Adjustment Steps	2 pixels
Frame Rate Adjustment	5 fps min.
Processing Capabilities	Smart deinterlacing Picture resizing Picture cropping/clipping Logo/graphics overlays Logo/text effects AFD conversion Thumbnail extraction Mosaic generation Blackout management Crawling text
File Formats	MPEG-2 TS/PS MXF (OP-1a) MOV MP4 (progressive download included) Apple HLS Microsoft Smooth Streaming MPEG-DASH
Subtitles	DVB teletext Closed captions DFXP subtitles WebVTT subtitles SMPTE TT subtitles

Content Protection	AES scrambling Apple HLS encryption Common Encryption (CENC) Microsoft PlayReady® DRM
Ad Insertion	SCTE-35 passthrough ESAM compliant
Passthrough	Audio Video Data

AUDIO PROCESSING

Encoding Profiles	MPEG-1 Layer II AAC-LC HE-AAC v1.0/v2.0 Dolby® Digital (AC-3)/Dolby Digital Plus (E-AC-3)
Decoding Profiles	MPEG-1 Layer II AAC-LC HE-AAC v1.0/v2.0 AC-3/E-AC-3 Dolby E
Processing Capabilities	Resampling (8 to 48 kHz) Stereo/mono conversions Multichannel down-mixing Static gain adjustment Automatic loudness control with EBU measurements Delay adjustment

PHYSICAL

Rack Height	1 RU x 19 in 6 RU x 19 in 10 RU x 19 in
Cooling	Front-to-rear airflow
Hot-Swappable Components	Power supplies Fans A/V processing modules IP switches

ENVIRONMENTAL

Operating Temperature	50° to 95° F 10° to 35° C
Storage Temperature	-22° to 140° F -30° to 60° C
Maximum Humidity	90%

ORDERING INFORMATION

BASE SYSTEM

Part Number	Description
VS7000-SW-SOFT-ONLY	VS7000 software delivery
VS7000-SW-VIRTUALIZED	VS7000 for virtualized environments
VS7000-1U-2AC-SYS	VS7000 processing platform and system storage, RAID 1 HDD, 1 RU
VS7000-1U-2AC-PRO	VS7000 processing platform, diskless, 1 RU
VS7000-6U-AC	VS7000 blade chassis, hosts up to 8 blades, 6 RU
VS7000-10U-AC	VS7000 blade chassis, hosts up to 16 blades, 10 RU

